


CILER

CILER Overview

Presented at

NOAA-GLERL Laboratory Review
November 17, 2010



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CILER History

- Founded in 1989 with signing of an MOU between UM and Undersecretary of Oceans and Atmosphere, DOC.
- Had five multi-year Cooperative Agreement Proposals
- Moved from College of Engineering to SNRE in 2002


The Current CILER

- 2007 – 2012 Competitive Award
- Structured as a Regional Consortium with 9 named partners: Michigan State, U. Minnesota-Duluth, U. Illinois, U. Wisconsin-Madison, SUNY-Stony Brook, Ohio State, U. Toledo, Grand Valley State, Penn State




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CILER's Mission

- Improve *effectiveness of NOAA-sponsored research* by serving as a focal point for *interactions* between NOAA and the Great Lakes researchers
 - Improve *understanding of fundamental processes* and their interactions (physical, chemical, biological, ecological, social, economic)
 - Improve *observations and data availability* to support forecasting
 - Improve *physical and ecological forecasts* for: 1) restoration/protection of natural resources, 2) management decisions, and 3) sustainable economic development
- Improve *graduate education* and research opportunities
- Provide *training* for current and future NOAA and University workforce.
- Disseminate information and research products to the public and stakeholders



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NOAA and CILER Working Together


CILER's operational structure enhances ability to implement common missions, goals, and priorities:

I. University of Michigan based

- CILER PI's and research staff co-located within GLERL
- Planning and execution of internal and extramurally-funded research projects and proposals are done jointly.
- Common use of facilities is cost-effective and enhances productivity of University scientists and graduate students
- CILER's research and outreach are a direct extension of GLERL's

II. Regional Partners

- Filling gaps in expertise with regional scientists and students
- Flexibility, Responsiveness
- Broader regional perspectives or relevance



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Current CILER (UM) Staff

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- Administration – most located at UM
 - ◆ Director (50%), Assoc. Director (10%), Business Administrator (100%), Administrative Asst. (50%), and Administrative Support for Ed/Outreach and Regional Collaboration
- Research Staff - most located at GLERL
 - ◆ 3 Research Scientists
 - ◆ 3 Research Investigators
 - ◆ 8 Post-doctoral Research Fellow
 - ◆ 5 Research Assistants / Associates
 - ◆ 2 Programmers / Analysts
 - ◆ 42 Temporary staff
 - ◆ 14 Summer Fellows
 - ◆ 2 High School Student Interns

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Theme I: Great Lakes Forecasting

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- Promote ability to forecast physical and ecological dynamics in the Great Lakes

(physical hazards, water levels, water quality, HABS, human health risks, fish recruitment, invasive species impacts)

Theme II: Invasive Species

- Help reduce the prevalence and impacts of invasive species in the Great Lakes



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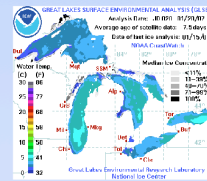


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Theme III: Observing Systems

- Improve access to real-time and historical data on climate, meteorology, chemistry, geology, biology affecting GL ecosystem to researchers and stakeholders



Theme IV: Protection and Restoration of Resources



-Promote ecological integrity and preservation of biological diversity
(protect, restore, enhance coastal areas to promote healthy ecosystems)

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Theme V: Integrated Assessment

- Promote interdisciplinary research to address management concerns; linking to socioeconomic issues as a guide for policy and resource use.



Theme VI: Education and Outreach



- Promote education and training opportunities to students from K12 through graduate level

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Research and Training Opportunities

- Postdoctoral Research Fellows
- Graduate Student Research Assistants
- Great Lakes Summer and Long-Term Student Fellowships
- Undergraduate Research Opportunity Program
- Partners-for-Excellence HS Intern Program



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Education and Outreach Activities

Programmatic

- National Ocean Sciences Bowl
- CILER-GLERL Seminar Series
- Lab Open Houses and Group Tours

Project-based

- Outreach and Education Coordination for the OHH Center
- Assisting Great Lakes Coastal Communities with Climate Change

Individual-based

- Thunder Bay National Marine Sanctuary and Underwater Preserve
- Guest Lectures at Regional Universities and K-12 Classrooms



CILER Sponsored Workshops and Symposia

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- *Development and Application of Biosensors for Monitoring Human and Ecosystem Health*, June 22-23, 2010 (CEGLHH)
- *Lake Michigan Ecological Modeling/Forecasting Workshop and Community Modeling Framework*, ~ Dec 2010 (NCCOS and GLERL)
- *Adaptive Region-Scale Great Lakes Ecosystem Management Model – a test case of the Community Modeling Framework*, ~ Feb 2011 (NCCOS and GLERL)
- *Expert Review of research-based science activities supported through the Great Lakes Restoration Initiative*, ~ Mar 2011 (NOAA-GLERL)
- Workshop in support of FY11 GLRI project: *Regional Climate Research for Application to Decision Making*, 2011 (NOAA-GLREL)
- Project-specific PI meetings: GLOS, OHHI, ACT, EPA-Surveillance, Saginaw-Bay AIF, EcoFore



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Funding within Current CA (2007 – present)

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- 86 CA projects totaling over \$13.5 million
- Non-CA project funding of \$3.7 million
- Just submitted two 5-yr proposals (GLOS, ACT) totaling \$14 million



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Funding Distribution

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- NOAA
 - ◆ OAR
 - ◆ NESDIS
 - ◆ NMFS
 - ◆ NWS
 - ◆ Sea Grant
 - ◆ NOS
- US EPA
- US Coast Guard
- US Fish & Wildlife
- US Geological Survey
- Office of Naval Research
- CORE
- Academy of Natural Sciences
- Great Lakes Fishery Trust
- Great Lakes Protection Fund
- Great Lakes Fishery Commission
- State of Michigan DEQ
- University of Michigan





CILER Projects supported with GLRI

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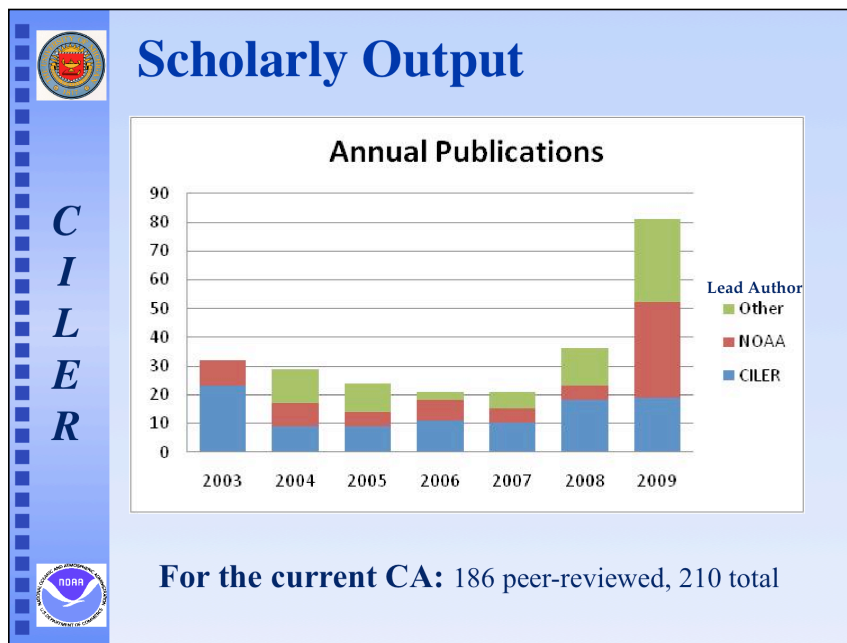
Via NOAA and the Cooperative Agreement (~\$4.0 million)

1. GLERL GLRI Administrative Support (Burton, Johengen, Robinson)
2. Great Lakes Invasive Species Information System (Rutherford, IN/ILL SeaGrant, students)
3. Oceans & Human Health Initiative (OHH) (Beach Forecasting Coordinator, MSU Outreach Coordinator, Modeling, Water Quality Observations - Schwab, Rockwell, Johengen, Andersen)
4. Great Lakes Observation System (GLOS) (Schwab, Ruberg, Johengen and 5 academic partners)
5. Regional Climate Research for Application to Decision Making (Lofgren)
6. Land Use Tipping Points (Mason, MSU, Purdue, U Illinois)
7. Status and Trends of Lake Michigan Benthos (Nalepa, students)
8. Assisting GL Coastal Communities with Climate Change Adaptation (Day, Intern)

Via Competitive EPA-GLRI funding (~\$1.2 million)


1. 60-hour beach Forecasting Models (Burton, Rockwell)
2. Great Lakes Observing Systems - Tributary AOC monitoring (Johengen and 5 academic partners)
3. Permanent Multi-buoy Monitoring and Modeling of Eastern Lake Erie (Beletsky, Anderson w/ SUNY-Buffalo)





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Future Directions: Management

Guidance Provided by 2010 CILER Formal Review

- Business Plan: encourage collaboration, nurture innovation, reward individual entrepreneurship in pursuit of shared goals
- Refine Institutes vision and improve its “branding”
- Improve strategies for developing new intellectual ideas that complement rather than supplement work at GLERL
- Unique/Leadership Roles
 - Synthesis of data focused around management questions
 - Translating data into information that is useful to stakeholders
 - Focal point for communication of NOAA’s work in GL to external parties including managers and general public
 - Push-person on each project to deliver results broadly and timely to add value



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Future Direction: Science

Support and expand focus in Ecosystem Forecasting and Resource Sustainability

- Sensor technology, observation networks, multi-trophic level assessments
 - Integrate physical, chemical, biological, and toxicological systems
 - Field validation of forecasting systems to document uncertainty
 - Link forecasts to ecosystem services
 - Spill response and ecological risk assessments
- Management directed, multi-stressor, 'integrated' assessments
 - Link watershed and near-shore uses to stressors and resulting impairments
 - Link resource/quality assessment outcomes to socio-economic/mgmt outcomes